PD3-5:
OUTCOME OF ROBOTIC-ASSISTED RADICAL PROSTATECTOMY IN HIGH RISK PATIENT

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Purpose: Recently, there has been considerable interest in the role of radical prostatectomy (RP) in men with high-risk prostate cancer. The objective of our study is to report the outcome of upfront RP in our single medical center patients with high-risk prostate cancer (Stage $\geq$ cT3, a pre-operative serum prostate specific antigen [PSA] >20 ng/ml or a biopsy Gleason score [GS] 8-10).
Materials and Methods: From April 2012 to May 2015, there were 117 patients of prostate cancer underwent robotic-assisted radical prostatectomy with bilateral pelvic lymphadenectomy. There was 64 (54.7%) high risk patients. The tumor's characteristic, intra-operative statuses, post-operative follows up outcome were analysis.
Results: The mean age was 68-year-old. Patients with 1 high risk features was 35 (54.7%), 2 features was 24 (37.5%), 3 features was 5 (7.8%). The mean operative console time was 203.5min (113–465), estimated blood loss was 423ml (50–1700). The mean length of stay was 8.8 days (5–27). Complication rate was 34%. For the pathology finding, Positive surgical margin was found in 27 patients (42%), upstaging was found in 10 of 35 cT2 patients (29%), down staging was found in 12 of 29 cT3 patients (41%). For the outcome: Biochemical failure was noted in 6 (9%) patients. 6 month continence rate was 86%, mean post-operative International Index of Erectile Function (IIEF-5) score was 17.
Conclusion: Possibility of down staging in 41.4% patients and down-grading in 19.4%.Radical prostatectomy provides accurate pathologic staging of patients with high risk prostate cancer, allows better stratification of patients for further adjuvant therapy and either as an initial approach or part of a multimodal regimen, can provide durable local control.

PD3-6:
COMPLICATIONS OF RADICAL PROSTATECTOMY RELATE TO RISK STRATIFICATION OF PROSTATE CANCER PATIENTS

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Purpose: To analyze, classified and report a single surgeon experience of perieoperative complications of open radical prostatectomy associated with risk classification of prostate cancer.
Materials and Methods: Between 1984 and 2011, a total of 305 patients receiving open radical prostatectomy were evaluated for surgery related complications. Patient's age ranged from 43 to 78 with a mean age of 68.5. Complications were classified into intra-operative, postoperative (<30 days) and late (>30 days). The Modified Claverin system was used to grade complications.
Results: Of 305 patients, 34 (11.2 %) had record of surgery related complications those including: 9 (2.7 %) intra-operative recognized, 19 (6.1%) postoperative and 7 (2.3) happened post discharge complications. Intra-operative complications were all grade 3 (All 7 rectum injury were recognized in operation and 6 of them were resolved by simple two layers sutures and another one had proximal colon diversion. Intra-operative bleeding was also analyzed. The mean blood loss was calculated as 1214 ml for first 100 cases, 960 ml for 2nd 100 cases and 880 ml for recent 105 cases, The blood transfusion rate were 76 %, 65 % and 57 % respectively. Of 34 complications, 5 (1.7%) were Clavein grade 1, 9 (2.9%) were grade 2, 16 (5.2%) were grade 3 and one grade 4.One grade V (Mortality). Major complications (grade3/4) occurred in 10 % in first 100 cases and 80% of them were high risk patients. However major complications happened in 3.8% in recent 105 cases and all of them were high risk patients.
Conclusion: Radical prostatectomy is associated with major complications rate of 5.9 %. Almost of these complications were correctable if detected early, The operation mortality was 0.3%. Major complications are voluntary occurred in high risk patients suggest extended node dissection with wider excision of peri-prostate tissue may responsible for higher complications.

Podium-4
Andrology

PD4-1:
THE EFFECT OF PHOSPHODIESTERASE-5 INHIBITOR AND EXTRACORPOREAL SHOCK WAVE ON CAVERNOUS NERVE STIMULATION-INDUCED INTRACAVERNOUS PRESSURE INCREASE IN THE DIABETIC RAT

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Purpose: Diabetes mellitus (DM) is a risk factor for erectile dysfunction. Low-intensity extracorporeal shock wave (LI-ESW) has been used for the treatment of erectile dysfunction (ED). Clinically, phosphodiesterase-5 (PDE5) inhibitor is the first-line treatment for male patients with ED. Therefore, the aim of this study was to investigate whether there was a synergistic effect of PDE5 inhibitor and LI-ESW on penile erection in the DM rats.
Materials and Methods: Streptozotocin (STZ)-induced DM rats were used. Six groups of experimental animals were designed as following: LI-ESW (0.05 mJ/mm^2) was delivered by a special probe (6 mm) to penile base and mid-shaft, respectively 400 shocks (group 1), 800 shocks (group 2), and 0 shock (group 3, sham control group), respectively twice a week for 2 weeks. The same LI-ESW experiment is executed in DM rats with daily feeding sildenafil 0.1 mg/0.2 ml via oral-gastric tube for 4 weeks (group 4, 5, 6). Then electrical stimulation of cavernous nerve (CN) and major pelvic ganglion (MPG), respectively with parameters (5 and 7.5 V, 20 Hz, 2 ms, 1 minute) 2 weeks after 2-week LI-ESW in each of the six groups of rats, and the intracavernous pressure (ICP) was monitored via a 26-gauge needle inserted into the corpus cavernosum. The amount of ICP increase was the difference between the peak ICP and resting ICP.
Results: There were a significant greater amount of ICP increase after CN stimulation with 5 and 7.5 V in the group 1 (7.5 V: 62.3 $\pm$ 6.7 mmHg, $p = 0.041$) and group 2 (7.5 V: 69.5 $\pm$ 6.9 mmHg, $p = 0.015$) compared with group 3 rats (sham control, 7.5 V: 40.7 $\pm$ 5.5 mmHg), respectively. A significant greater amount of ICP increase after MPG stimulation with 5 and 7.5 V were noted in the group 1 (7.5 V: 70.0 $\pm$ 4.6 mmHg, $p = 0.002$) and group 2 (7.5 V: 70.0 $\pm$ 6.8 mmHg, $p = 0.004$) compared with group 3 rats (7.5 V: 37.7 $\pm$ 4.6 mmHg), respectively. There were no significant difference of amount in ICP increase after CN stimulation with 5 and 7.5 V among group 4 (7.5V: 66.0 $\pm$ 4.0 mmHg), 5 (7.5V: 61.7 $\pm$ 6.1 mmHg) and 6 (7.5V: 55.7 $\pm$ 5.6 mmHg) [$p = 0.286$]. No significant difference amount of ICP increase after MPG stimulation with 5 and 7.5 V among group 4 (7.5V: 67.0 $\pm$ 5.4 mmHg), 5 (7.5V: 75.3 $\pm$ 5.7 mmHg), 6 (7.5V: 58.0 $\pm$ 4.3 mmHg)[$p = 0.286$]. There were no significant greater amount of ICP increase after CN stimulation with 5 and 7.5 V between shockwave groups with and without daily feeding sildenafil (group 4 vs. 1, group 5 vs. 2, group 6 vs. 3).
Conclusion: The results suggest that extracorporeal shock wave may have an enhancing effect on CN or MPG stimulation-induced intracavernous pressure increase in DM rat. Combined sildenafil with LI-ESW may not have a synergistic effect on penile erection in the diabetic rats.

PD4-2:
THE IMPACT OF MAEL PROMOTER METHYLATION ON HUMAN SPERMATOGENESIS

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Purpose: MAEL null mice can perturb piRNA biogenesis and results in male infertility due to meiotic defects. Furthermore, the observation is concordant with an elevated retrotransposon expression. In this study, we aimed to explore the MAEL epigenetic regulation and transposable elements

(TEs) expression in non-obstructive azoospermic (NOA) men with a histopathological diagnosis of hypospermatogenesis (HS).
Materials and Methods: In H358 human cell line, we determined the MAEL transcript levels after endogenous methylation of MAEL promoter region by TDM (target DNA methylation) method. Transposable elements (LINE-1) expressions were checked afterward. In HS with NOA patients, we utilize their testicular tissue under NCKUH IRB regulation. The mRNA transcript levels were determined by quantitative real-time RT-PCR. The methylation levels of MAEL promoter region were investigated by pyrosequencing technology. Moreover, LINE-1 expression were determined afterward. Significance was set at $P < 0.05$.
Results: In human cell line, MAEL transcript levels decreased significantly after promoter hypermethylation by TDM method. Nevertheless, LINE-1 transcripts were significantly higher in hypermethylated cells. In human testis, the mRNA transcript levels of MAEL were significantly lower in patients with hypospermatogenesis ($P = 0.004$). There are 33 CpGs in our predicted promoter region (−453 to +28, TSS = 1) of the MAEL gene. Total 33 CpGs showed significantly higher % methylation in HS group. LINE-1 transcript levels were significantly higher in HS group ($P = 0.0489$).
Conclusion: Our study provides evidence that MAEL participates in the epigenetic regulation of human spermatogenesis. 33 CpG sites in the promoter region are associated with the low expression levels of MAEL. Methylation of MAEL promoter region might contribute to one of the causes of male infertility by interfering piRNA-mediated defense mechanism from transposable elements.

PD4-3:
THE EFFECTS OF DIFFERENT TYPE OIL IN HIGH-FAT AND HIGH-FRUCTOSE DIETS ON REPRODUCTION FUNCTION IN MALE RATS

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Purpose: The aim of this study was to investigate and compare the effects of high-fructose, high-fat diet supplemented with soy bean oil or coconut, on the testicular testosterone biosynthesis, antioxidant capability and cell apoptosis in male rats.
Materials and Methods: Wistar rats were 24 male, 6 weeks old and divided into 3 groups: control group, soybean oil group and coconut oil group. Soybean oil group and coconut oil group were fed with high fat (39 % of total calorie) high fructose (48 % of total calorie) diets. After 20 weeks, rats were given sacrificed.
Results: The soybean oil group had lowest serum testosterone level and saturated fatty acid ratio in testis fatty acid composition; the expression of Cytochrome P450 (CYP17A1) involved in testosterone biosynthesis and glutathione peroxidase activity was highest among groups. Also enhanced Tumor necrosis factor α (TNF α) and Nuclear factor kappa-light-chain-enhancer of activated B cells (NF κB). Moreover, western blot analysis clearly showed the significantly increased testicular cleavage caspase 3 and PARP (poly ADP ribose polymerase) expression in the soybean group.
Conclusion: These results suggest that high-fructose and high-soybean diet decreased reproductive function due to modify testicular fatty acid composition, increased the oxidative stress in the testis and germ cell apoptosis in male rats.

PD4-4:
THE PHENOTYPE ANALYSIS OF INFERTILE MEN WITH COMPLETE AZFc deletion

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Purpose: Azoospermia factors (AZF) are located on the long arm of Y chromosome and have been divided into three regions, namely AZFa, AZFb and AZFc. While the AZFc region is the most commonly deleted because its structure is composed of many palindromes. Deletion of the AZFc region is found in about 13% of azoospermic and in 6% of severely oligozoospermic men. Complete AZFc deletions were accounted for by intrachromosomal recombination between the b2 and b4 amplicons. Deletions of the entire AZFc region result in loss of all four DAZ copies which are the first spermatogenesis genes identified on the human Y chromosome. Males with Y chromosome infertility usually have no obvious symptoms, although physical examination may demonstrate smaller testes. Currently, literature on Y deletions have no conception about the phenotypic effects of the deletions. We presented the phenotypes and treatment outcome of infertile men with complete AZFc deletion in our hospital.
Materials and Methods: We retrospectively reviewed patients with complete AZFc deletion (b2/b4) deletion presenting with either non-obstructive azoospermia (NOA) or oligoasthenoteratozoospermia (OAT) from 2008 to 2014. The phenotypic elements such as age, karyotyping, hormone profile, sperm analysis parameters, findings at physical examination (status of testis, vas, varicocele), endocrine profile and sperm retrieval rate were analyzed. Testis volume was divided into 2 categories by a cutoff value at 12ml.
Results: Totally 41 patients, mean age 35.1 y/o, were collected. There were 29 NOA and 12 OAT patients. In the 29 NOA patients, 2 had sperm recovered from semen after a period of medical treatment. Eighteen patients received microdissection testicular sperm extraction (mTESE) and 13 had successful sperm retrieval. The sperm retrieval rate for NOA patients was 15/20 (75%). For all patients with AZFc deletion, the sperm retrieval rate was 84.4%. Mean testicular volume was 14.4 ± 4.5 ml for left side and 14.6 ± 4.6 for right side. The mean semen volume was 3.9 ± 1.3 ml. The mean FSH was 15.3 ± 9.6 mIU/ml, LH was 6.7 ± 3.3 mIU/ml, testosterone was 4.3 ± 1.8 ng/ml, prolactin was 11.6 ± 5.9 ng/ml, and E2 was 24.8 ± 10.4 pg/ml. The only statistically significant factor for predicting sperm in semen was testis volume larger than 12ml ($P = 0.047$). There was no identifiable predicting factor for success sperm retrieval in NOA patients.
Conclusion: From our data, although with limited patients number, the sperm retrieval rate was 84.4% in all patients and 75% in NOA via mTESE procedure. Testis volume larger than 12ml is a predicting factor for sperm appearance in semen for patients with complete AZFc deletion.

PD4-5:
SHOULD RIGHT SIDE GRADE I VARICOCELE BE CORRECTED IN OAT PATIENTS WITH BILATERAL VARICOCELE?

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Purpose: Controversial opinion existed between treatment necessities for oligoasthenoteratospermia (OAT) patients with grade I varicocele. The purpose of this study was to evaluate whether right side grade I varicocele should be treated with varicocelectomy.
Materials and Methods: We retrospectively collected patients who received subinguinal microscopic varicocelectomy due to OAT from April. 2008 to December. 2015. Varicoceles were graded according to guidelines of the World Health Organization. All patients underwent preoperative and postoperative semen analysis. Statistical analysis of the data was performed using the Student t test, Kruskal-Wallis test and Mann-Whitney test, which was considered significant at $p < 0.05$.
Results: A total of 215 patients received subinguinal microscopic varicocelectomy were included in this study. All patients with right side Grade I varicocele presented with bilateral varicocele and among them 5 patients received left side varicocelectomy only (Group I) and 6 patients received bilateral varicocelectomy (Group II). 40 patients had right side Grade II varicocele and left side varicocele, and all of them received bilateral varicocelectomy (Group III). Most of their preoperative and postoperative semen parameters including sperm concentration, total count, percent age of motility and normal form showed improvement except concentration in Group I and Group II, count and percent of normal form in Group II. But the improvement all showed no significant difference. Percent of motility